ENTERIDIUM RUBIGINOSUM sp. nov., A NEW MYXOMYCETE FROM SPAIN.

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ABSTRACT — *Enteridium rubiginosum*, a new species from Spain, is described and illustrated by SEM and LM photographs, and compared to related species.

KEY WORDS — *Enteridium rubiginosum*, *Myxomycetes*, Taxonomy.

MATERIAL AND METHODS

Studies of spores by scanning electron microscopy (SEM) were made with a Zeiss-DSM 950. Light microscopy (LM) was performed with a Nikon Labophot microscope equipped with an automatic photographic system. Samples for these studies were mounted in Hoyer's medium.

The material of *Enteridium rubiginosum*, described below is conserved in the herbarium of the Universidad de Alcalá (AH), and in the private herbarium of E. Gràcia (EGB) kept of the Faculty of Science of the University of Barcelona.

RESULTS

***Enteridium rubiginosum* Gràcia, Illana & Moreno, sp. nov. (Figs. 1-2)**

Etymology: *Rubiginosum*, by the colour of the fructifications.

Latin diagnose: *Aethalium pulviniforme vel elongatus, 5-50 mm long., 4-12 mm latus, applanatus. Peridium obscure fusco-brunneus, coriaceus, rugosus, areolatus, irregulariter dehiscentibus per fissuris. Pseudocapillitium filamentosus, reticulum efformantibus. Sporis in aggregatis castaneo-ferrugineis. Capillitium nodulis angustis vel fila* 3-30 µm *latus, flavidae rugosae. Sporis* 10-12 (13) µm *diam., liberis, globosis, spinosis, flavidis.*

Holotypus: Hispaniae: Islas Canarias, La Gomera, Vallehermoso, Pinar de Argumame, Jardin de "Las Creces", *ad truncis ramulisque Eucalypti*, 27.VIII.1977, *leg.* E. Gràcia *et* M. E. Pérez-Bonfils, *in Herb.***AH 18705** *conservatus est; isotypus* EGB 5785.

Collections examined: *Enteridium rubiginosum*. SPAIN: Pontevedra, Cobres, 20 above sea level, on wood of *Eucalyptus* sp., 27-VIII-1977, *leg.* E. Gràcia, EGB 330. Canary Islands, La Gomera, Vallehermoso, Pine grove of Argumame, Jardin de "Las Creces", on wood, branches and bark of *Eucalyptus* sp., *leg.* E. Gràcia y M. E. Pérez-Bonfils, EGB 5778, 5781, 5787, 5789, 5797, AH 18705 Holotypus (EGB 5785 *Isotypus*).

Other collections examined: *Enteridium simulans*. AUSTRIA: Nowotny 1102, 15-X-1983. THE NETHERLANDS: Nannenga-Bremekamp 5633, 20-VIII-1963.

Aethalia flatened, variable in size and shape, pulvinate discoid to elongate, 0,5-5 cm long. and 0,4-1,2 cm broad. Peridium, rusty brown to brown-mahogany, coriaceous, roughened and dividided in irregular areoles, forming a tessellate cortex (strongly marked on the internal face of the peridium). Dehiscence by irregular breaking of the cortex. Hypothallus with the same colour and areolate structure as the peridium, not protruding outside the aethalium. Pseudocapillitium consisting of a network of anastomosing strands, attached to the base and in part weakly to the cortex, with some free ends. Spores in mass ferrugineous-brown.

Peridium in transmitted light dark brown, with polygonal plates enclosed by ridges on the internal side, 0.3-0.5 (1) mm in diam. Pseudocapillitium consisting of branched strands (3-30 µm wide), surface rugose, yellow. Spores, 10-12 (13) µm diam., free, globose, warted, pale yellow. S.E.M. shows a spore ornamentation of irregular warts.

Remarks: *Enteridium rubiginosum* strongly resembles some species of the genus *Dictydiaethalium* because of its peridium of polygonal areoles, which are very pronounced on the internal surface in transmitted light. It differs by its irregular dehiscence, and the lack of breaking of cortex into individual caps with strands of pseudocapillitium. In *Dicytidiaethaelium*, the pseudocapillitium consists of strands which are firmly attached to the margin of the caps, while in *E. rubiginosum* it is a network of anastomosed plates filling completely the aethalium.

The genus *Enteridium* Ehrenb., comprises nine taxa (Yamamoto, 1988). Five of them have reticulate spores and are therefore unlikely to be confused with *E. rubiginosum*, and four have spinose non-reticulate spores:*E. aureum* (Nann.-Brem.) Farr, *E. liceoides* (Lister) G. Lister, *E. olivaceum* Ehrenb. and *E. simulans* Rostaf. The species with non-reticulate spores differ from *Enteridium rubiginosum* by several features. *E. aureum* has small aethalia (4 mm long and 1,2 mm wide) and a bright yellow colour. *E. liceoides* has small vermiforms aethalia (1-10 mm long and about 0,5 mm wide), with scanty pseudocapillitium, and clustered spores. *E. olivaceum* has solitary olive-brown, pulvinate, aethalia, 1-5 mm diam., and spores in clusters of 5-25.

Enteridium simulans Rost. was included in *E. olivaceum* by Lister (1925) and by Martin & Alexopoulos (1969) and later segregated from *E. olivaceum* as a variety by Nannenga-Bremekamp (1973). It differs clearly from our new species, by the olive spores, the peridium slightly or not areolate and by its scanty capillitium, which is more strand-like. The spore ornamentation and the size [9-14 (15) µm diam.] however are similar (Fig. 3).

Enteridium rubiginosum is characterized by the following distinctive features: discoid to elongate aethalia, spores ferruginous-brown in mass and strongly areolate peridium (as in a *Dictydiaethalium*). It has been recorded several times, which indicates that it is worthy of recognition.

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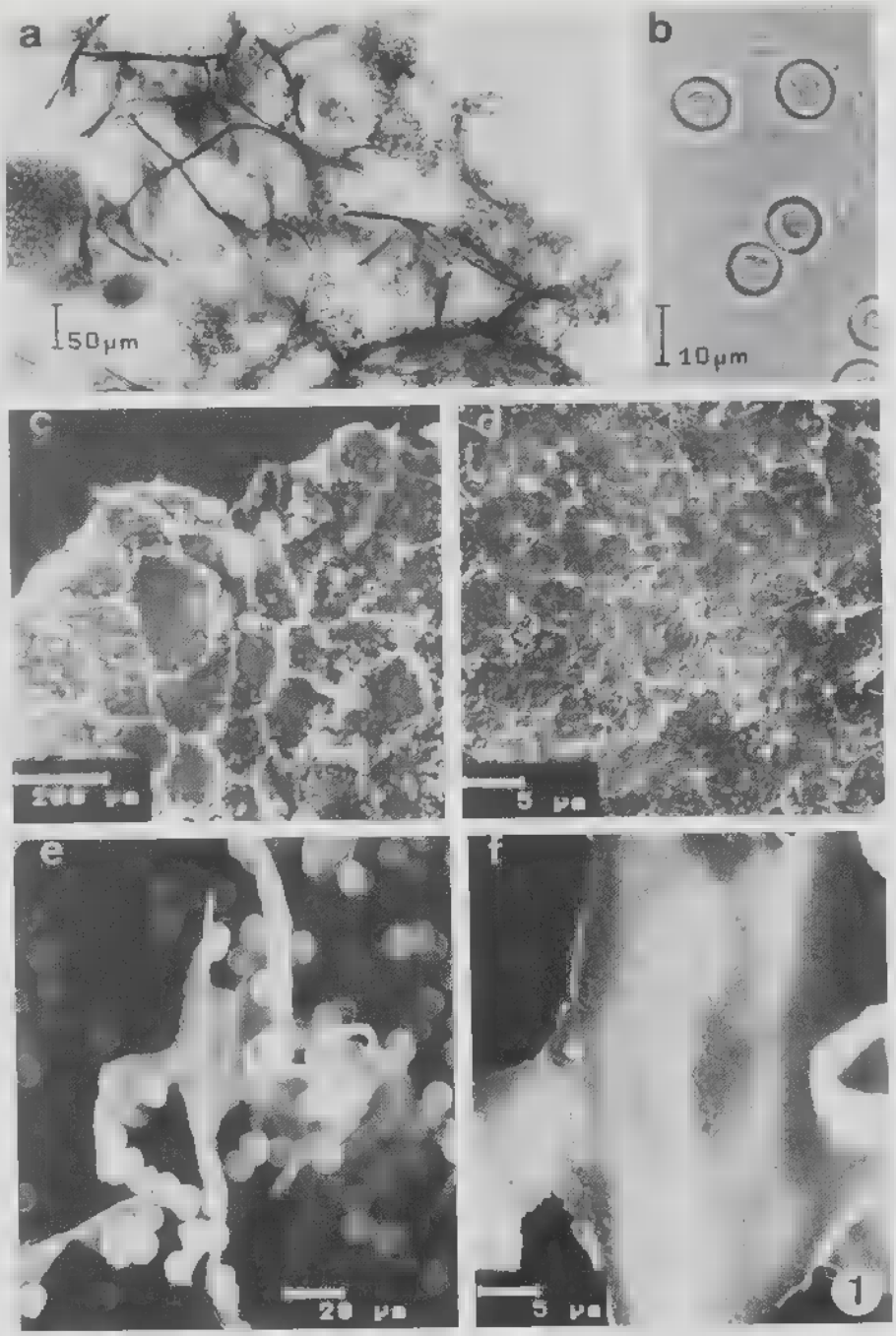

Fig. 1.- *Enteridium rubiginosum* (*Holotypus*). a: capillitium (LM). b: spores (LM). c-d: internal areolate side of the peridium (SEM). e-f: capillitium (S.E.M.).

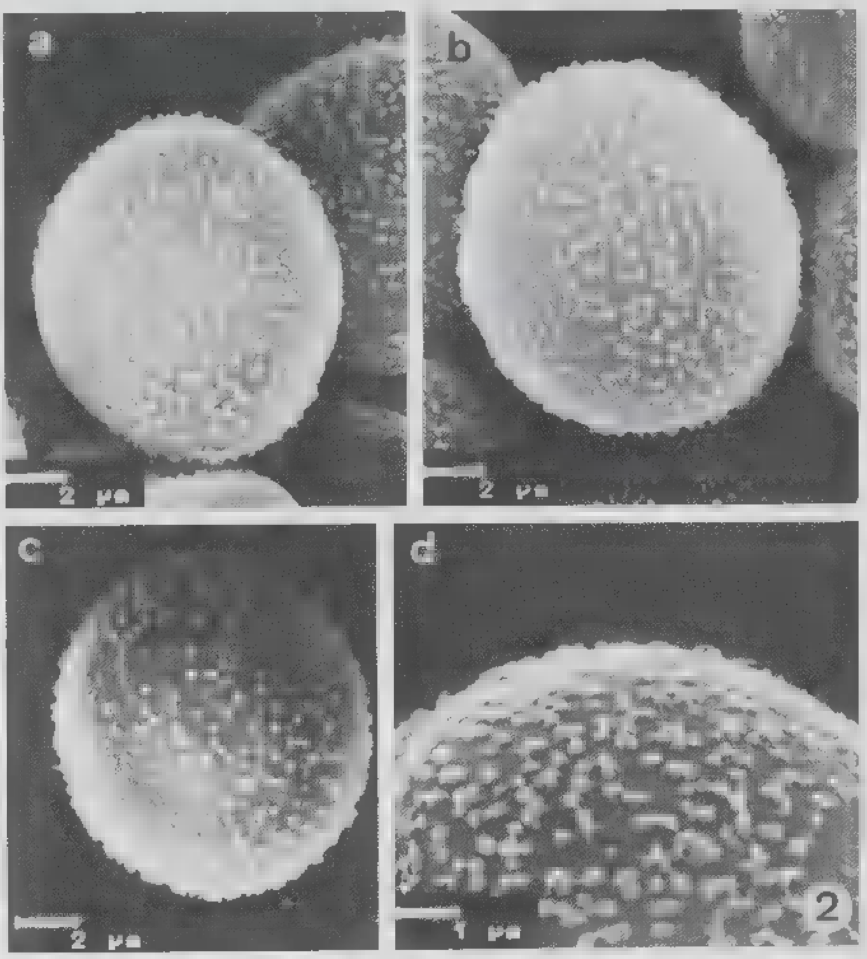

Fig. 2. — *Enteridium rubiginosum* (*Holotypus*). a-c: spores (S.E.M.). d: detail ornamentation sporal (S.E.M.).

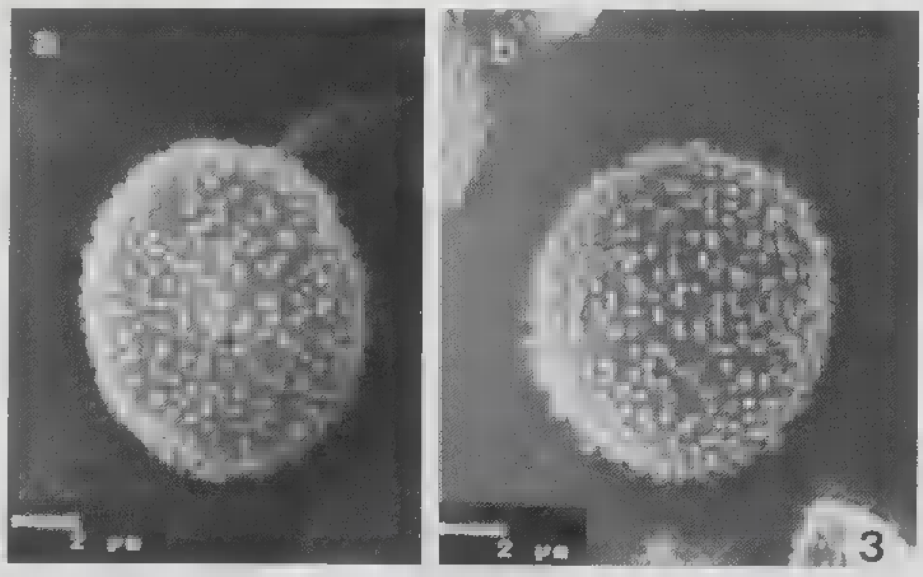

Fig. 3. — *Enteridium simulans*. a (Nowotny 1102): spore (S.E.M.). b (Nannenga-Bremekamp, 5633): spore (S.E.M.).